

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 12367500	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">FOR FURTHER ACTION</div> <div>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</div> </div>
International application No. PCT/AU2003/001497	<div style="display: flex; justify-content: space-between;"> <div>International filing date (<i>day/month/year</i>) 13 November 2003</div> <div>(Earliest) Priority Date (<i>day/month/year</i>) 13 November 2002</div> </div>
Applicant MONOQUANT PTY LTD et al	

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of **4** sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure

☐ because this figure better characterizes the invention

☒ None of the figures

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2003/001497

A. CLASSIFICATION OF SUBJECT MATTERInt. Cl. ⁷: C12N 005/00, 005/06, 005/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Electronic Databases - See below

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic Databases - See below

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPIDS & CHEMICAL ABSTRACTS Keywords used - clone, clonal, polymorphism, lymphocyte, T cell, B cell, neoplasm, leukemia, leukaemia, cancer, carcinoma, tumor, tumour, myelodysplasia, polycythaemia, polycythemia, myeloproliferative, microsatellite, mitochondria, electrophoresis, mass spectrometry, hplc, high performance liquid chromatography

CHEMICAL ABSTRACTS Keywords used - clonal & polymorphism (indexing terms), lymphocyte, T cell, B cell, neoplasm, leukemia, leukaemia, cancer, carcinoma, tumor, tumour, electrophoresis, mass spectrometry

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SANCHEZ-CESPEDES et al. Identification of a Mononucleotide Repeat as a Major Target for Mitochondrial DNA Alterations in Human Tumors. Cancer Research. October 2001, vol. 61, pages 7015-7019	1-5, 8, 9, 11-20, 23, 24, 26-31
Y	See whole document	1, 6, 7, 12-14, 15, 16, 21, 22, 26-29
X	STERNLICHT et al. A Novel Strategy For The Investigation Of Clonality In Precancerous Disease States And Early Stages Of Tumor Progression. Biochemical and Biophysical Research Communications. March 1994, vol. 199 no. 2, pages 511-518	1-5, 8, 9, 11, 15-20, 23-24, 26, 30-31
Y	See whole document	1, 6, 7, 10, 12-14, 15, 16, 21, 22, 26-29



Further documents are listed in the continuation of Box C



See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
15 January 2004

Date of mailing of the international search report

28 JAN 2004

Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE
PO BOX 200, WODEN ACT 2606, AUSTRALIA
E-mail address: pct@ipaustalia.gov.au
Facsimile No. (02) 6285 3929

Authorized officer

KAREN TAN

Telephone No : (02) 6283 2277

C (Continuation).

DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	THUNBERG et al. Comparative Analysis of Detection Systems for Evaluation of PCR Amplified Immunoglobulin Heavy-Chain Gene Rearrangements. Diagnostic Molecular Pathology. 1997, vol. 6 no. 3, pages 140-146	1-5, 8, 9, 11, 15-20, 23-24, 26, 30-31
Y	See whole document	1, 6, 7, 10, 12-14, 15, 16, 21, 22, 26-29
X	LUTHRA et al. The Application of Fluorescence-Based PCR and PCR-SSCP to Monitor the Clonal Relationship of Cells Bearing the t(14;18)(q32;q21) in Sequential Biopsy Specimens from Patients with Follicle Center Cell Lymphoma. Diagnostic Molecular Pathology. 1997, vol. 6 no. 2, pages 71-77	1-5, 8, 9, 11, 15-20, 23-24, 26, 30-31
Y	See whole document	1, 6, 7, 10, 12-14, 15, 16, 21, 22, 26-29
X	MCKENNA et al. A Rapid Restriction Fragment Length Polymorphism Polymerase Chain Reaction-Based Diagnostic Method for Identification of T-Cell Lymphoproliferative Disorders. Journal of Surgical Research. 1999, vol. 85, pages 311-316	1-5, 8, 9, 11, 15-20, 23-24, 26, 30-31
Y	See whole document	1, 6, 7, 10, 12-14, 15, 16, 21, 22, 26-29
X	KOCH et al. Molecular Detection and Characterization of Clonal Cell Populations in Acute Lymphocytic Leukemia by Analysis of Conformational Polymorphisms of cRNA Molecules of Rearranged T-Cell-Receptor- γ and Immunoglobulin Heavy-Chain Genes. Leukemia. June 1994, vol. 8 no. 6, pages 946-952	1-5, 8, 9, 11, 15-20, 23-24, 26, 30-31
Y	See whole document	1, 6, 7, 10, 12-14, 15, 16, 21, 22, 26-29
X	GOMORI et al. Microsatellite Analysis of Primary and Recurrent Glial Tumors Suggests Different Modalities of Clonal Evolution of Tumor Cells. Journal of Neuropathology and Experimental Neurology. May 2002, vol. 61 no. 5, pages 396-402	1-5, 8, 9, 11, 15-20, 23-24, 26, 30-31
Y	See whole document	1, 6, 7, 10, 12-14, 15, 16, 21, 22, 26-29
X	WICKHAM et al. Detection of Clonal T Cell Populations by High Resolution PCR Using Fluorescently Labelled Nucleotides; Evaluation Using Conventional LIS-SSCP. J Clin Pathol: Mol Pathol. 2000, vol. 53, pages 150-154	1-5, 8, 9, 11, 15-20, 23-24, 26, 30-31
Y	See whole document	1, 6, 7, 10, 12-14, 15, 16, 21, 22, 26-29
X	AJZENBERG et al. Microsatellite Analysis of <i>Toxoplasma gondii</i> Shows Considerable Polymorphism Structured Into Two Main Clonal Groups. International Journal for Parasitology. 2002, vol. 32, pages 27-38	1, 6, 10, 15, 16,
Y	See whole document	1, 6, 10, 15, 16,
X	WO 2002/088388 A1 (RUBBEN) 7 November 2002	1, 6, 10, 15, 16,
Y	See whole document	1, 6, 10, 15, 16,
X	US 2002/0004201 A1 (LAPIDUS et al) 10 January 2002	1-5, 8, 9, 11, 15-20, 23-24, 26, 30-31
Y	See whole document	1, 6, 7, 10, 12-14, 15, 16, 21, 22, 26-29

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/AU2003/001497

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
US	2002004201	AU	14307/97	AU	18019/99	AU	39189/00
		CA	2211702	CA	2313014	CA	2331254
		CA	2369045	EP	0815263	EP	1034307
		EP	1086247	EP	1185693	US	5670325
		US	5928870	US	6020137	US	6100029
		US	6143529	US	6146828	US	6203993
		US	6214558	US	6300077	US	2002119469
		WO	0058514	WO	9723651	WO	9928507
		WO	9966077				
WO	02088388						
END OF ANNEX							